

NODE=M233

 **$\chi_{c1}(4274)$** 

$$I^G(J^{PC}) = 0^+(1^{++})$$

was  $X(4274)$ 

This state shows properties different from a conventional  $q\bar{q}$  state.  
A candidate for an exotic structure. See the review on non- $q\bar{q}$  states.

Seen by AAIJ 17C in  $B^+ \rightarrow \chi_{c1} K^+$ ,  $\chi_{c1} \rightarrow J/\psi \phi$  using an amplitude analysis of  $B^+ \rightarrow J/\psi \phi K^+$  with a significance (accounting for systematic uncertainties) of 6.0  $\sigma$ .

 **$\chi_{c1}(4274)$  MASS**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>4274 <math>\pm 8</math> OUR AVERAGE</b>				
4273.3 $\pm 8.3$ $^{+17.2}_{-3.6}$	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$
4274.4 $\pm 8.4$ $^{+8.4}_{-6.7}$ $\pm 1.9$	22	<sup>2</sup> AALTONEN	17 CDF	$B^+ \rightarrow J/\psi \phi K^+$

<sup>1</sup> From an amplitude analysis of the decay  $B^+ \rightarrow J/\psi \phi K^+$  with a significance of 6.0  $\sigma$ .<sup>2</sup> From a fit to the invariant mass spectrum with a significance of 3.1  $\sigma$ .

NODE=M233M

NODE=M233M

 **$\chi_{c1}(4274)$  WIDTH**

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
<b>49 <math>\pm 12</math> OUR AVERAGE</b>				
56 $\pm 11$ $^{+8}_{-11}$	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$
32.3 $\pm 21.9$ $^{+21.9}_{-15.3}$ $\pm 7.6$	22	<sup>2</sup> AALTONEN	17 CDF	$B^+ \rightarrow J/\psi \phi K^+$

<sup>1</sup> From an amplitude analysis of the decay  $B^+ \rightarrow J/\psi \phi K^+$  with a significance of 6.0  $\sigma$ .<sup>2</sup> From a fit to the invariant mass spectrum with a significance of 3.1  $\sigma$ .

NODE=M233M;LINKAGE=A

NODE=M233M;LINKAGE=B

NODE=M233W

NODE=M233W

 **$\chi_{c1}(4274)$  DECAY MODES**

Mode	Fraction ( $\Gamma_i/\Gamma$ )
$\Gamma_1 J/\psi \phi$	seen

NODE=M233W;LINKAGE=A

NODE=M233W;LINKAGE=B

NODE=M233215;NODE=M233

DESIG=1

NODE=M233220

NODE=M233R01

NODE=M233R01

NODE=M233R01;LINKAGE=A

NODE=M233

REFID=57657

REFID=57636

REFID=58161

 **$\chi_{c1}(4274)$  BRANCHING RATIOS**

$\Gamma(J/\psi \phi)/\Gamma_{\text{total}}$	EVTS	DOCUMENT ID	TECN	$\Gamma_1/\Gamma$
<b>seen</b>	4289	<sup>1</sup> AAIJ	17C LHCb	$B^+ \rightarrow J/\psi \phi K^+$

<sup>1</sup> From an amplitude analysis of the decay  $B^+ \rightarrow J/\psi \phi K^+$  with a significance of 6.0  $\sigma$ . **$\chi_{c1}(4274)$  REFERENCES**

AAIJ Also AALTONEN	17C PR D95 012002 MPL A32 1750139	PRL 118 022003 PR D95 012002 MPL A32 1750139	R. Aaij <i>et al.</i> R. Aaij <i>et al.</i> T. Altonen <i>et al.</i>	(LHCb Collab.) JP (LHCb Collab.) (CDF Collab.)
--------------------------	---	--	--	--